

ABSTRACT

5 A method and apparatus is described for controlling the attenuation of multiple wavelengths
signals propagating in an optical fiber, that may have a time-dependent power in each signal, to
provide an output signal having a desired attenuated power in each of the multiple signals. An
equalizer may be used that has various optical elements to focus and disperse light, such as a
concave diffraction grating and a modulator array having modulators disposed on a concave
surface. The equalizer may also be coupled to various components such as a circulator or
10 thermally expanded core fibers.